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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed June 3, 2008 have been fully considered but they are not persuasive.
2. The Applicant argues the following:
  - a. "As discussed in the Remarks of the previous Amendment, Applicants respectfully submit that one skilled in the art would clearly have appreciated that a camera and a set-top box have drastically different functionalities, structure, designs, components and parts. Because of the differences between a set-top box and a camera, one skilled in the art would not have looked to a set-top box when evaluating features to be used in a camera. On pages 3-4 of the final Office Action, the Examiner states that one skilled in the art would have recognized the advantages of cutting off power to a storage device, such as that used in the Hatakeyama apparatus, after transmitting data to the storage device to conserve power.

However, Applicants respectfully submit that the power on and off features taught by Hatakeyama relate to suspending the power being supplied to the memory card when the memory card is being detached to "protect[s] the memory card and data therein, and reduce[s] the waste of power in the camera while the memory card is detached from the camera." (Abstract of Hatakeyama, lines 9-11). In other words, Hatakeyama is concerned with preventing damage to the

memory card during removal, which can occur if power is being supplied to the card during removal, and conserving power being supplied to the camera when the memory card is removed, because the camera cannot be used properly when the memory card has been removed. There is no teaching or suggestion of discontinuing power to the memory card when the camera is in use, nor is there any teaching or suggestion that applying power to the memory card when the camera is in use wastes power to any significant degree which would require attention. On the contrary, one skilled in the art may have understood from the teachings of Hatakeyama that, for example, it is desirable to maintain power to the memory card when the camera is in use to avoid a rapid powering up of the memory card when a picture is taken so that the picture can be stored on the memory card. In any event, one skilled in the art would not have understood from the teachings of Hatakeyama that it is preferable or even desirable to discontinue power to the memory card after storing data on the memory card."

➤ The Examiner acknowledges that the Hatakeyama reference does not explicitly disclose discontinuing power to the memory card when the camera is in use, nor is there any teaching or suggestion that applying power to the memory card when the camera is in use wastes power to any significant degree which would require attention. However, the Examiner is not presenting the Hatakeyama reference to show said features. The features of disconnecting power to the memory while the camera is in use are suggested in the Sakamoto reference. Sakamoto teaches a digital broadcast receiving device (See fig. 3)

having connected a smart card (Fig. 3: 117) to record video data being watched for later use, wherein when the digital broadcast receiving device finish transferring data to the smart card, the processor (Fig. 3: 106) would turn off the power supply of the smart card with the purpose of obtaining low power consumption (Col. 4, lines 54-60; col. 5, lines 1-30; col. 8, lines 40-54).

➤ In regards to the arguments "In any event, one skilled in the art would not have understood from the teachings of Hatakeyama that it is preferable or even desirable to discontinue power to the memory card after storing data on the memory card." The Examiner that after acknowledging the advantages of the disconnecting the power to the memory after transmission of the image data as disclosed in the Sakamoto reference, one of an ordinary skill in the art would have been motivated to apply said features to the Hatakeyama invention to further improve its operation with the purpose of reducing power consumption as discussed in the Final Office Action. The fact that certain features are not present in the Hatakeyama reference does not impede one of an ordinary skill in the art to acknowledge the features and advantages presented in the Sakamoto reference to modify it.

➤ The Examiner also notes that the Applicant appears to be attacking the references individually, when arguing about limitations that are not present in a reference that are discussed and applied with another reference. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are

based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

b. "Sakamoto, on the other hand, describes a set-top box and power conservation operations, which can include turning off a power supply for a smart card 117. Applicants respectfully submit that nowhere does Sakamoto disclose that the set-top box technology can be used in a camera, or in any devices other than a set-top box. Furthermore, Applicants submit that one skilled in the art would have appreciated that a smart card and its use in a set-top box differs from the use of a memory card in a camera. For instance, powering down a smart card during non-use may have little consequence as opposed to powering down a memory card in a camera during non-use (e.g., a picture may not be stored and hence lost if the memory card is not powered up in time when the picture is taken). Accordingly, Applicants respectfully submit that the Examiner is using knowledge of the invention, in hindsight, to reach a finding of obviousness. However, it is well settled that such a "hindsight reconstruction" is impermissible. See, e.g., *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed.Cir.1983)."

➤ The Examiner disagrees. In regards to the argument "Applicants respectfully submit that nowhere does Sakamoto disclose that the set-top box technology can be used in a camera, or in any devices other than a set-top box",

as discussed in the Final Office Action, the USB drive and the smart card are notoriously well known data storage devices commonly used in electronic devices. The Examiner understands that the use of a known data storage technology may prompt variations of it for use in either similar devices such as a set-top box as well as different devices in other field of inventions such as a camera, PDAs, personal computers, or other electronic device that stores data in any form to a storage device based on particular limitations, storage capabilities or requirements for use, or based on design incentives of other market forces. The Examiner believes that one of an ordinary skill in the art would understand and notice the advantages of having an electronic device that after transmission of data to a storage device would cut the power supplied to a particular storage device, thus resulting in a reduction of power conservation of the electronic device as disclosed in Sakamoto (col. 5, lines 1-30; col. 8, lines 40-54). This advantages would have prompted one of an ordinary skill in the art to implement an obvious variation of the Hatakeyama by applying the known concept and principles of having an electronic device that after transmission of data to a storage device would cut the power supplied to said storage device as disclosed in Sakamoto, to allow an electronic camera that transmits image data to a storage device (in this case a USB device) to cut the supplied power to the storage device when transmission of image data is finished or completed.

➤ And even if the two electronic devices (the electronic camera and the digital broadcast receiving device) are not in the same field of endeavor, which

the Examiner does not concede, the digital broadcast receiving device using a smart card to store data and controlling to cut power supplied to said smart card after transmission is completed as disclosed in the Sakamoto reference is reasonably pertinent to solving the problem of power conservation of an electronic device and would have commended themselves to an artisan addressing such a problem. In re Clay, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992). Further more as discussed in the Hatakeyama reference, and acknowledged by the Applicants in this response (*Applicants respectfully submit that the power on and off features taught by Hatakeyama relate to suspending the power being supplied to the memory card when the memory card is being detached to "protect[s] the memory card and data therein, and reduce[s] the waste of power in the camera while the memory card is detached from the camera." (Abstract of Hatakeyama, lines 9-11). In other words, Hatakeyama is concerned with preventing damage to the memory card during removal, which can occur if power is being supplied to the card during removal, and conserving power being supplied to the camera when the memory card is removed, because the camera cannot be used properly when the memory card has been removed*), the Hatakeyama reference appears to be related to power conservation. This also teaches that the Hatakeyama and Sakamoto references are also related since they both attempt to solve a power conservation problem. Therefore, the Examiner understands that the combined teaching of Hatakeyama in view of

Barber et al. and further in view of Sakamoto as applied to claims 1, 2, and 5-8 are proper.

➤ In regards to applicant's argument that "powering down a smart card during non-use may have little consequence as opposed to powering down a memory card in a camera during non-use (e.g., a picture may not be stored and hence lost if the memory card is not powered up in time when the picture is taken)", the Examiner would like to point out that if a set-up box as shown in Sakamoto, video data is to be recorded to the smart card, if the smart card is disabled the set-up box would enable said smart card to start recording the video data. The Examiner understands that if the smart card is not enabled the video cannot be recorded at the time needed to be recorded.

➤ In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

c. "With regard to the rejection of claims 9-11 based on Hatakeyama, Barber, Sakamoto and Kim, Applicants respectfully submit that Kiln fails to make up for



the deficiencies in the teachings of Hatakeyama, Barber and Sakamoto to have rendered obvious the embodiments of the present invention even as recited in the independent claims. Furthermore, with regard to the features recited in claims 9-11 specifically, Applicants submit that Kiln does not "apply the power periodically" and then "monitor the USB drive port ... in response to the periodic power application."

Rather, Kim describes a power supply controlling apparatus of a device connected to a serial bus. To begin, Applicants respectfully submit that the teaching of Kim relate to a USB hub for use with, for example, a personal computer, and not to a digital camera. Hence, Applicants submit that one skilled in the art would not have looked to a USB hub when evaluating features to be used in a camera. Furthermore, Applicants respectfully submit that the passages specifically relied upon by the Examiner (i.e., paragraphs 0026-0030, 0040 and 0041) teach that a signal detecting unit 220 and control signal generator 230, as shown in Figs. 2 and 3, are used to monitor whether a USB device is using power or not. (See, in particular, paragraph 0041). In other words, in the Kim apparatus, power is being supplied to the USB devices, and the use or non-use of such power is being monitored, that is, "the control signal generator 230 keeps checking whether there is an input maintained LOW longer than 2 msec among the signals S1 from the signal detecting unit 220." (paragraph 0029). On the contrary, in the embodiments of the present invention as recited in claims 9-11, the power itself is supplied periodically and the USB drive port is monitored to

detect a voltage at the USB drive port in response to the periodic power application to determine whether the USB drive is coupled to the USB drive port”.

➤ In response to applicants argument “Applicants respectfully submit that the teaching of Kim relate to a USB hub for use with, for example, a personal computer, and not to a digital camera. Hence, Applicants submit that one skilled in the art would not have looked to a USB hub when evaluating features to be used in a camera”, the Examiner, as discussed in the Final Office Action, understands that while it may not be explicitly stated in the reference that the functionality of electronic devices such as a Host computer combined with a USB Hub may be realized by a camera, it is well known to a skilled artisan that a host computer and a camera are in the same field of endeavor as they are both electronic device having microcontroller/microprocessor controlled devices for processing data, such as image data, image processing, and/or image manipulation and that both devices are known to use storage devices to store data.

Also, the Examiner understands that the use of a known technology such as a host computer in communication with a USB device may prompt variations of it for use in either similar devices such as a other computer systems as well as different devices in other field of inventions such as a camera, PDAs, personal computers, or other electronic device that stores data in any form to a storage device based on particular limitations, storage capabilities, protocols or requirements for use, or based on design incentives of other market forces. The

Examiner believes that one of an ordinary skill in the art would understand and notice the advantages of having an electronic device that monitors whether a USB device is connected by periodically signaling the USB device and monitoring communication between the USB device and the electronic device, thus resulting in a reduction of power conservation of the electronic device as disclosed in Kim (Page 1, ¶ 0011-0012). This advantages would have prompted one of an ordinary skill in the art to implement an obvious variation of the Hatakeyama, Barber and Sakamoto by applying the known concept and principles of having an electronic device that monitors whether a USB device is connected by periodically signaling the USB device and monitoring communication between the USB device and the electronic device to the Hatakeyama, Barber and Sakamoto combined teaching to monitor whether the USB memory card is connected to the camera by periodically signaling the USB device and monitoring communication between the USB device and the electronic device, thus resulting in a reduction of power conservation of the electronic device as disclosed in Kim.

Even if the electronic devices (an electronic camera and a host computer with the USB Hub) are not in the same field of endeavor, which the examiner does not concede, the teaching of a Host computer having a USB Hub as disclosed in Kim is reasonably pertinent to solving the problem of power conservation and would have commended themselves to an artisan addressing such a problem. In re Clay, 966 F.2d 656, 658, 23 USPQ2d 1058, 1060 (Fed. Cir. 1992).

➤ In response to applicants argument "Applicants respectfully submit that the passages specifically relied upon by the Examiner (i.e., paragraphs 0026-0030, 0040 and 0041) teach that a signal detecting unit 220 and control signal generator 230, as shown in Figs. 2 and 3, are used to monitor whether a USB device is using power or not. (See, in particular, paragraph 0041). In other words, in the Kim apparatus, power is being supplied to the USB devices, and the use or non-use of such power is being monitored, that is, "the control signal generator 230 keeps checking whether there is an input maintained LOW longer than 2 msec among the signals S1 from the signal detecting unit 220." (paragraph 0029). On the contrary, in the embodiments of the present invention as recited in claims 9-11, the power itself is supplied periodically and the USB drive port is monitored to detect a voltage at the USB drive port in response to the periodic power application to determine whether the USB drive is coupled to the USB drive port", the Kim reference discloses that the Host 10 in combination with USB Hub 200 (as shown in figs. 2, 4 and 5) is supplying a periodic power (Page 2, ¶ 0026-0030) to a USB device (110 as shown in figs. 2, 4 and 4) according to a particular timing (Page 3, ¶ 0040-0041; Kim discloses periodically signaling the USB device to verify communication, identification or activation of a USB device. By teaching supplying power to the USB device, Kim discloses that the power is periodically supplied to said USB drive port (200 which includes interfaces 250, 251 and 252 for connecting the USB devices)) and monitoring the USB port (Hub 200) to detect a voltage at the USB port in response to the periodic power

application (Kim discloses that the USB Hub monitors the power supplied to the USB devices connected to said interfaces to determine whether the power supplied by the power supplying unit is not used by the USB devices for 2msec using signal detecting unit 220 as signal would be supplied to the control signal generator and said control signal generator would disable the power supplied to a particular interface since is being determined that the USB device is disconnected; see ¶¶ 0027-0030) to determine whether the USB device is connected, communicating or restarted communication with the USB port (Page 2, ¶¶ 0026-0030; page 3, ¶¶ 0040-0041). The examiner understands that the teaching of Kim teaches and/or suggest the limitations "the camera main body recognizes installation of the USB drive by applying the power periodically to a USB drive port of the camera main body according to a particular timing and monitoring the USB drive port to detect a voltage at the USB drive port in response to the periodic power application to determine whether the USB drive is coupled to the USB drive port" so that one of an ordinary skill in the art at the time the invention was made would have found obvious to combined the concepts taught in Kim to the teaching of Hatakeyama and Barber et al. in view of Sakamoto and further in view of Kim as a whole, it would have been obvious to one of an ordinary skill in the art at the time the invention was made to apply the concept of recognizing the installation of the USB device by applying the power periodically to a USB port of the electronic device according to a particular timing and monitoring the USB port to detect a voltage at the USB port in response to

the periodic power application to determine whether the USB device is coupled to the USB port as disclosed by Kim to the teaching of Hatakeyama, Barber et al. and Sakamoto to have the camera main body recognizing installation of the USB drive by applying the power periodically to a USB drive port of the camera main body according to a particular timing and monitoring the USB drive port to detect a voltage at the USB drive port in response to the periodic power application to determine whether the USB drive is coupled to the USB drive port. The motivation to do so would have been to reduce or prevent overall power consumption as suggested by Kim (Page 1, ¶ 0011-0012).

3. The Examiner understands that the prior art as applied to **claims 1-11** is proper and therefore the rejections are maintained.

### ***Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson D. Hernández whose telephone number is (571)272-7311. The examiner can normally be reached on 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

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June 17, 2008

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